Oil is found all over the world. From the cold Arctic to swamps in Louisiana to African deserts to the deep oceans. Oil is one of the world’s most valuable natural resources, which is why it is also called “black gold.”
Oil is all around us. The oil we use today had its origins millions of years ago. Oil is an organic material made from decaying plant and animal life buried under layers of rock. Over time, heat and pressure create a reaction that forms oil and natural gas.

Oil is trapped in rock formations deep inside the Earth. The porous rock holds oil and natural gas like a sponge holds water.

SOIL - brown
SHALE - gray
LIMESTONE - blue
SANDSTONE - tan
MY NAME IS _______________________
I AM FROM _______________________
I HAVE VISITED ____________________

I WOULD LIKE TO VISIT ________________________ OIL STATES.
I AM _______ YEARS OLD.
MY FAVORITE FUN FACT ABOUT OIL IS ____________________________
Today's geologists and geophysicists use soundwaves to create maps of rock formations. These maps tell them where oil and natural gas might be found. We use this information to determine where we should begin drilling for oil or gas on land or at sea.

What do we need to drill for oil? We need a derrick, pipe, and a drill bit. A derrick is a tall metal structure that holds the pipe. A worker called a roughneck adds sections of pipe to make it longer. The drill bit has many teeth on cones that rotate and cut through the rock.
Early oil prospectors, known as wildcatters, started drilling for oil to meet increasing demands. When they reached the oil it exploded out of the ground, creating a gusher. We have learned how to drill more carefully and to control the oil and natural gas and protect the Earth.

Unlike the old wooden derricks, we now use modern steel rigs to drill for oil and natural gas. Derricks come in many different sizes and styles. Derricks are used for land and offshore drilling.
Special offshore drilling rigs are used to drill for oil beneath the sea. In shallow waters we use jack-up rigs with moveable legs that rest on the seabed. Semisubmersible rigs and drill ships float and can be used in deeper water. How do people get to work? They take a boat or a helicopter.

When offshore oil fields are discovered, huge production platforms are constructed. They pump up the oil and prepare it for the refinery. These platforms are like “cities at sea” because a lot of people are needed to operate the platform and live on board for weeks at a time.
When oil is found on land, the derrick is replaced with a **beam pump**, also known as a **pumpjack**. These pumps are used to lift the oil and natural gas to the surface. Then the oil is pumped through a **separator**, which divides the oil, water and **natural gas**.

Oil pumped out of the ground is called **crude oil**. **Tanker trucks** and **pipelines** transfer the oil to the **refinery** to be processed. **Pipelines** carry oil and **natural gas** to **refineries** and customers.
Refineries process crude oil into many useful items. The crude oil enters a refining tower and is heated and separated, creating natural gas, fuel oil, and petrochemicals. Petrochemicals are used to make products we use everyday.

The things you see here are all made from petrochemicals. List items in your home that are made from petrochemicals.
Sometimes when we drill for oil we also find large amounts of natural gas. Natural gas is an abundant natural resource found throughout the United States. It is a clean-burning fuel used for heating and for making electricity.

Today there are thousands of men and women all over the world who work in the petroleum industry. Here are just a few examples. Which job do you think would be fun?
IMPORTANT PETROLEUM DATES

505 A.D. Oil used for lighting in Jerusalem.
1859 The Drake Well in Pennsylvania becomes the first commercially successful oil well in the United States.
1865 Introduction of pipeline as oil transportation.
1901 Oil boom in Texas! Spindletop gusher comes in at 100,000 barrels a day.
1906 The first natural gas company is started in Oklahoma.
1907 The first drive-in gasoline station.
1908 Howard Hughes designs the first rotary rock bit.
1913 Burton “cracking” process for refining patented.
1938 First offshore drilling in only 13 feet of water.
1954 First offshore jackup rig.
1970 The introduction of Earth Day.
1973 Alaskan pipeline approved.

My visit to an oil, gas, or energy museum!
Word Search
Can you find all the hidden words below?

EBMJIPGLHZWNSEV
SMRTANKERFEAPBK
GEOPHYSICISTSLC
OXFRDAELPBLUCAE
HITNGASLEDURCCN
BBASEADORADAFKH
UOLEKNRVCWLDGG
LAPCOPRIOHMTCOU
CQWOQVNBCACGEO
LIOKPKNSUOROPDR

ORGANIC, POROUS, GEOPHYSICISTS, NATURAL,
GAS, PLATFORM, CRUDE, OIL, BLACK GOLD,
TANKER, ROUGHNECK

Help the driller find the oil.
P = How the oil and natural gas get to the refinery
E = Early oil prospectors were known as
T = A clean-burning fuel used for heating and making electricity
R = Tall steel structure used for land and offshore drilling
O = What this book is all about
L = How we reach the oil
E = Oil is found deep within the
U = An offshore drilling rig that has moveable legs
M = Another name for pumpjack

**GLOSSARY**

**Beam Pump or Pumpjack** - Equipment that lifts the oil to the surface.
**Black Gold** - Another name for crude oil.
**Derrick** - A tall metal frame built over an oil well to support the drill bit.
**Drill Bit** - Rotating equipment that cuts a hole in the Earth.
**Drill Ship** - A ship with a derrick used for drilling in deep water.
**Geologist and Geophysicist** - Scientists who study rock formations.
**Gusher** - When oil explodes through the Earth and out the derrick.
**Jack-up-rig** - An offshore drilling rig with moveable legs that rests on the ocean floor.

**Natural Gas** - Valuable vapor found with oil used for heating and electricity.
**Natural Resources** - Products from the Earth that cannot be replaced.
**Organic** - Natural product derived from living organisms.
**Offshore Drilling** - The search for oil and natural gas under water.
**Oil Barrel** - Large metal bin that holds 42 gallons of oil.
**Petroleum or Crude Oil** - Oil before it has been processed.
**Petrochemical** - A by-product of processed crude oil.
**Pipeline** - Miles of pipe taking oil and natural gas to refineries and customers.
**Porous Rock** - Rocks that have tiny holes that hold oil, natural gas, and water.
**Production Platform** - An offshore structure where crude oil and natural gas are separated and prepared for the pipeline.

**Prospectors or Wildcatters** - People searching for oil.
**Refinery** - Industrial plant that processes crude oil into many useful products.
**Rock Formations** - Layers and types of rocks.
**Roughneck** - Oil rig worker who often works with pipe.
**Semisubmersible** - A floating offshore drilling rig.
**Separator** - Equipment that removes water and natural gas from crude oil.
**Tanker** - A large truck or ship used to transport oil.
Participating

OIL AND GAS MUSEUMS

Arkansas Museum of Natural Resources
Arkansas' Oil, Brine & Forestry Heritage
3853 Smackover Highway
Smackover, AR 71762
870-725-2877
www.cel.net/amnr

California Oil Museum
From Fossils to ‘fill ‘er up’
1001 E. Main Street
Santa Paula, CA 93060
805-933-0076
www.oilmuseum.net

Drake Well Museum
Birthplace of the Oil Industry
RD#3 Box 7
Titusville, PA 16354
814-827-2797
www.drackewell.org

Kansas Oil Museum
Geology, gushers, and growth
383 E. Central
El Dorado, KS 67042
316-321-9333
www.skyways.org/museums/kom

Ocean Star Offshore Energy Center
Step aboard an offshore drilling rig
Pier #4 / Galveston Ship Channel
Galveston, TX 77550
409-766-7827
www.oceangstaroec.com

Spindletop/Gladys City
Boomtown Museum
Home of the Lucas Gusher
Highway 69 @ University Drive
Beaumont, TX 77710
409-835-0823
www.spindletop.org

Texas Energy Museum
Unlocking the energy of oil
600 Main Street
Beaumont, TX 77701
409-833-5100
www.texasenergymuseum.org

West Kern Oil Museum
Oil camp living in historic oilfields
314 4th Street
Taft, CA 93268
661-765-6664
www.westkern-oilmuseum.org

The Oil Activity Book was brought to you by
PAYDIRT novelties and gifts from the oilpatch
P.O. Box 6548, Kingwood, TX 77325 www.hitpaydirt.com 281-354-6664

A special thanks to all those who helped make The Oil Activity Book a reality, especially Susan, Margi, Debbie, Mark, Nancy, Shari, Janet, Cheryl, the Desk and Derrick Club of Fort Worth and our sponsors The Association of Desk and Derrick Clubs and The Houston Geological Society.

© 2001 Copyright Positive Publishing • All rights reserved • Printed in the USA • Recycled Paper
P.O. Box 8648, La Jolla, California, 92038, USA • Tel: (858) 551-0889 • (800) 551-3718 • Fax: (858) 456-1348
gtextinfo@pospub.com • pospub@aol.com • www.pospub.com
ASSOCIATION OF
DESK AND DERRICK CLUBS

The result of one woman's quest for knowledge about the petroleum industry, the Association of Desk and Derrick Clubs was formed in 1951. Today men and women throughout the United States and Canada represent a unique cross section of industry's finest who are dedicated and committed to our motto: "Greater Knowledge—Greater Service."

The occupations of Desk and Derrick members range from company owners, financial analysts, and managers to landmen, mud engineers, technicians, roustabouts, executive assistants, and geologists—more than 90 occupational categories—all linked by a common purpose.

If you are employed in any branch of the petroleum, natural gas, energy and allied industries, or in companies which directly supply and serve these industries, make a commitment to expand your professional and personal knowledge—join Desk and Derrick today.

PURPOSE
"The purpose of the Association shall be to promote the education and professional development of individuals employed in or affiliated with the petroleum, energy and allied industries."

ADDC SPONSORED PUBLICATIONS
With PennWell Books:
Desk and Derrick Standard Oil Abbreviator, 4th Ed. by Association of Desk and Derrick Clubs
Illustrated Petroleum Reference Dictionary, 4th Ed.

With PETEX:
Fundamentals of Petroleum, 4th Ed.
Fundamentals of Petroleum Correspondence Course
Practical Petroleum Geology
Land and Leasing

SCHOLARSHIPS
The Desk and Derrick Educational Trust was created by the Association to award scholarships to students who have completed two years of undergraduate study while maintaining a 3.0 grade point average and demonstrating financial need. Applicants must be pursuing a degree in a major field of study related to the petroleum, energy or allied industries with the objective of obtaining full time employment in the industry.

Information and applications for ADDC membership or scholarships are available by contacting:

PetroMolly™ and the Magic Suitcase enjoy teaching students of all ages about petroleum and natural gas, and she is especially fond of doing presentations to all her friends at school. PetroMolly™ is very special with her oil drop-shaped head and derrick eyes.

www.addc.org

The Houston Geological Society
http://www.hgs.org
713-785-6402

PAYDIRT
Novelties and Gifts from the Oilpatch

Great petroleum gift ideas for special occasions or any occasion!

Call today for our catalog or visit our website.

(800) 266-5011
www.hitpaydirt.com

PAYDIRT
P.O. Box 6548
Kingwood, TX 77325
phone or fax 281-359-6669